BOKUCHAVA, Mikhail Alekseyevich, prof., doktor biologicheskikh nauk,;

OPARIR, A.I., akad., otv. red.; BUNDEL', A.A., red. izd-va,;

PRUSAKOVA, T.A., tekhn. red.

[Biochemistry of tea and tea production] Biokhimiia chaia i chainogo proizvodatva. Moskva, Izd-vo Akad. nauk SSSR, 1958. 536 p.

(HIRA 11:12)

(Tea)

BOKUCHAVA, 17.77.

AUTHORS:

Bokuchava, M. A., Doctor of Biological Sciences, 30-2-26/49

Popov, V. R., Candidate of Biological Sciences

TITLE:

Investigations in the Field of the Biochemistry and Technology of Tea in India (Raboty po biokhimii i

tekhnologii chaya v Indii)

PERIODICAL:

Vestnik Akademii Nauk SSSR, 1958,

Nr 2, pp. 91-91

(USSR)

ABSTRACT:

Tea industry takes the second place in the political economy of India. Approximately 70 % of the tea production of the country is produced in Assam (North-Eastern India), where already in 1911 the experimental station Toklay was founded, which also now is the main center of scientific research in the field of biochemistry and technology of tea in India. The staff numbers about 170 people. Here the scientific research dealing with botany and tea selection, agricultural technique and the protection of the tea plant and other problems is conducted, on which the authors report in detail. The station has modern equipment. An experimental plant is attached to the station, where experiments are performed on

Card 1/2

Investigations in the Field of the Biochemistry and Technology of Tea in India

30-2-26/49

the perfection of the production technology of tea. The experimental station has at its disposal scientific advisers in every great tea region of the country, which perform various urgent work on the spot. The experimental station Kunur (Southern tropical region) conducts work in the field of botany, agricultural technique, application of chemistry, disease— and pest control. The Technological Institute for Foodstuffs at Maysur also deals with tea problems, as well as a laboratory of the University of Calcutta.

AVAIIA BLE:

Library of Congress

Tea-Biochemistry 2. Tea-Economic aspects-India 3. Tea-Growth-India 4. Tea-India

Card 2/2

BOKUCHAVA, M.A.

Scientific basis of a new technology in the production of black tea
[with summary in English]. Izv.AH SSSR. Ser.biol. no.4:463-470
J1-Ag '58

1. Institut blokhimii im. A.N. Bakha Akademii nauk SSSR.

(THA)

BOKUCHAVA, M.A.; SOBOLEVA, G.A.

Synthesis and transformation of organic acids in tea seedlings
[with summary in Inglish]. Fiziol. rast. 5 no.1:70-74 Ja-F 158.

(MIRA 11:1)

1. Institut biokhimii im. A.N. Bakha AN SSSR, Moskva.

(Tea) (Acids, Organic)

erikan er

BONUCHAVA, M.A., SOBOLEVA, G.A., KNYMZEVA, A.N.

Transformation of tea leef catechins brought about by high temperatures [with summary in English]. Biokhimiia 23 no.2 266-268 Mr-Ap '58 (MIRA 11:6)

1. Institut biokhimii im. A.N. Bakha AN SSSR, Moskva. (HEAT, effects transform of catechins in tea leaves (Rus)) (TRA, heat causing transform, of catechins in tea leaves (Rus)) (PHENOLS, catechins in tea leaves, transform. caused by heat (Rus))

SHIPALOY, M.S., BOKUCHAVA, M.A., SOBOLEVA, G.A.

Using a debautineter in quantitative determination of catechins separated by paper chromatography.[with summary in English].

Biokhimina 23, 3090-394 My-Je '58 (MIRA 11:8)

1. Institut biokhimii im. A.N. Bakha AN SSSR, Moskva.

(PTHOCATECHOL, determination

chromatography with densimetric quantitative determ. (Bus))

20 -110-0-29/47

AUTHORS:

Skobeleva, N. I., Bokuchava, M. A., Knyazeva, A. M.

TITLE:

Change of the Content of Volatile Aldehydes in the Thermal

Treatment of Tea

(Izmeneriye soderzhaniya letuchikh al¹degidov v protsesse

termicheskoy obrabotki chaya)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 6,

pp. 1153-1154 (U.R).

ABSTRACT:

The application of heat-treatment has been investigated for years (references 1 - 5). A new manufacturing process of black tea due to which both the quality and storage property are substantially improved, was proposed as result of these investigations. The new method is based on the reduction of the ferment action and on the increase of the thermophysical processes. In this case the torsion-time is reduced by 50%, the second phase of fermentation is eliminated and replaced by a heat-treatment. The tannin-content of tea can be increased by $3 - 4^{\circ}/o$ and its aroma and taste substantially improved. The quality was increased by 0,5 to 0,75 points, compared with the control samples. Since

Card 1/2

the volatile aldehydes are of importance for the aroma of the tea,

Change of the Content of Volatile Aldehydes in the Thermal Treatment of Tea

20-118-6-29/43

their change of content was investigated. Green tea and black tea produced according to the new technology - after heat—treatment - were investigated. Table 1 shows that during thermal treatment the aldehyde content increases both with green and black tea. An organoleptic examination showed that the heat—treatment gives an agreeable taste and aroma to the tea. A second test—series (table 2) confirmed the above results again. There are 2 tables, and 5 references, all of which are Slavic.

ASSOCIATION:

Institute for Bioche mistry imeni A. N. Bakh, AS USSR

(Institut biokhimii im. A. N. Bakha Akademii nauk SSSR)

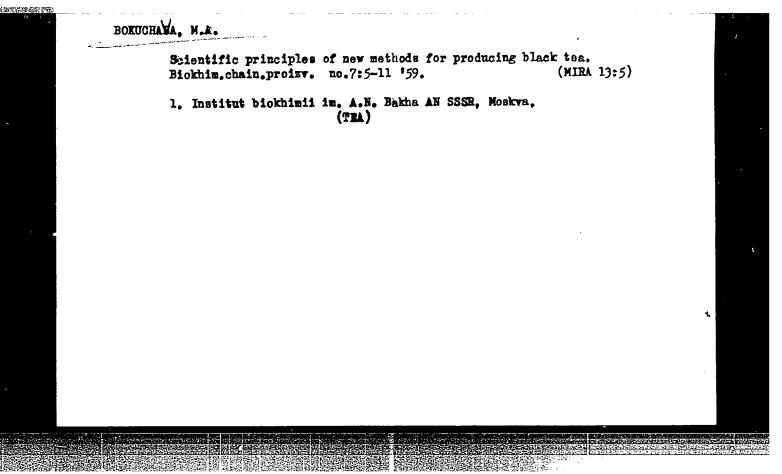
PRESENTED:

November 15, 1957, by A. I. Oparin, Academician.

SUBMITTED:

November 14, 1957.

Card 2/2



BOXUCHAVA. M.A.; KNYAZEVA, A.M.; SKOBELEVA, N.I.; DMITRIYEV, A.F.;
PROLIDZE, V.G.

Results of production testing of the new technology for black
tea. Biokhim.chain.proizv. no.7:12-24 159. (MIRA 13:5)

1. Institut biokhimii imeni A.N. Bakha AN SSSE, Moskva.

(TRA)

Studying amino acids in the leaves of Georgian and Indian tea by paper chromatography. Biokhim.chain.proizv. no.7:111-113 '59.

(MIRA 13:5)

1. Institut biokhimii im. A.N. Bakha AN SSSR, Moskva.

(TRA) (AMIRO ACIDS) (CHROMATOGRAPHIC ANALYSIS)

BOKUCHAVA, M.A.; BERDYYEVA, S.I.

Bacteriostatic and bactericidal properties of the different fractions of tea tannin with regard to certain bacteria of the enteric group. Biokhim.chain.proisv. no.7:209-213 159.

(MIRA 13:5)

1. Institut biokhimii im. A.N. Bakha AN SSSR, Moskva i Turkmenskiy institut epidemiologii i mikrobiologii, Ashkhabad.

(TANNIN)

(TEA)

(INTESTINES -- BACTERIOLOGY)

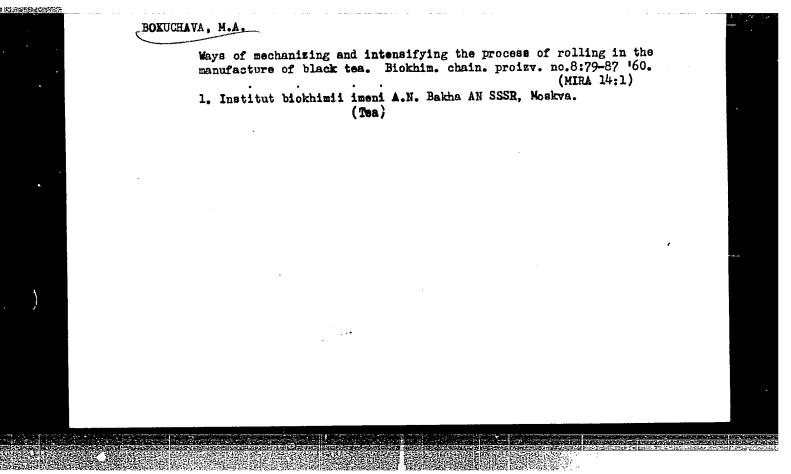
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Increasing the vitamin P value and improving the quality of tea.

Blokhimita 24 no.2:371-375 Mr-Ap '59. (MIRA 12:7)

1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R., Moscow. (TEA.,
vitamin P enriched (Rus))

(VITAMIN P,
enrichment of tea (Rus))
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Blochemical problems associated with the development of the tea industry during 1959-1965. Biokhim. chain. proizv. no.6:5-9 '60. (MIRA 14:1) 1. Institut biokhimii imeni A.N.Bakha AN SSSR, Moskva. (Tea research)



Conversion of gatechels in the laws

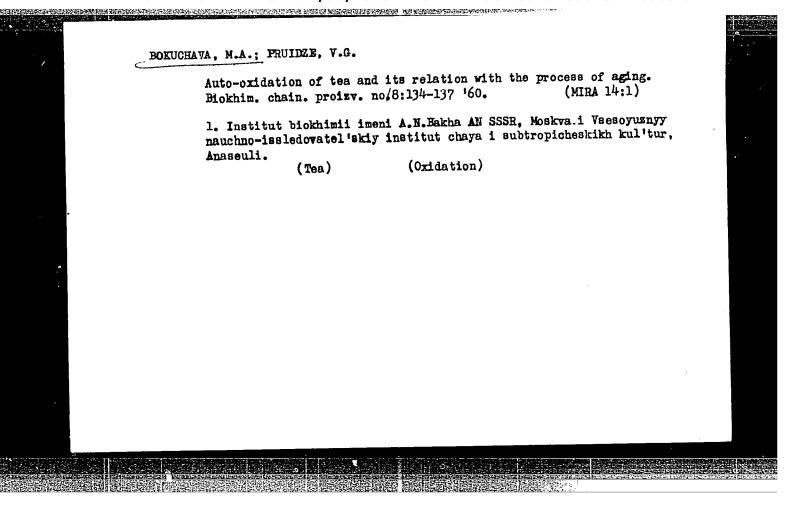
Conversion of catechols in tea leaves due to the action of enzymes and thermal processing. Biokhim. chain. proizv. no.8:107-110 '60. (MIRA 14:1)

1. Institut biokhimii imeni A.N. Bakha AN SSSR, Moskva.
(Tea) (Catechol)

BOKUCHAVA, M.A.; POPOV, V.R.; KNYAZEVA, A.M.; UL'YANOVA, M.S.

Chemical composition and quality of Indian tea leaves and black tea. Blokhim. chain. proizv. no.8:111-128 '60. (MIRA 14:1)

1. Institut blokhimii imeni A.N. Bakha AN SSSR, Moskva. (Tea)



BOKUCHAVA, M.A.; SKOBELEVA, N.I.; KNYAZEVA, A.M.; GRIGOR'YEV, A.I.;
POLUPANOVA, R.V.

Results of testing the new technological of manufacturing black tea in the Dagomys Tea Factory in 1958-1959. Biokhim. chain. proizv. no.8:176-185 '60. (MIRA 14:1)

1. Trest "Azerchay", Baku.
(Azerbaijan-Tea)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206110008-3"

BOKUCHAVA, M.A.; SKOBELEVA, N.I.

Increasing the vitamin P content and improving the quality of tea.

Biokhim. chain. proisv. no.8:194-197 '50. (MIRA 14:1)

Biokhim biokhimii imeni A.N. Bakha AN SSSR, Moskva.

(Tea)

(Tea)

(Tea)

Antibiotic properties of different types of tea.

Antibiotic properties of different types of tea.

MIRA 14:1)

projev. no.8:204-206 '60.

1. Institut biokhimii imeni A;N. Rakha AN SSSR, i Institut mikrobiologii AN SSSR, Moskva.

(TEA)

(ANTIBIOTICS)

BOKUCHAVA, M.A.; SKOBELEVA, N.I.

Flavone transformation in the production of tea. Biokhimiia 25
(MIRA 14:4)
no. 3:404-406 My-Je '60.

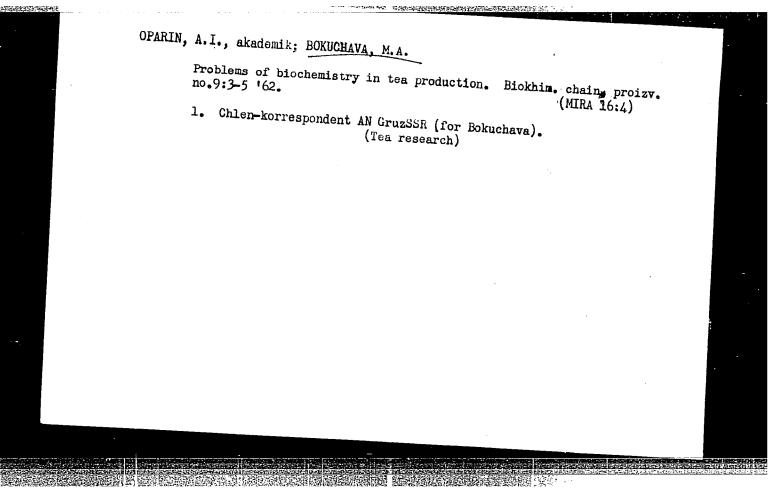
1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R.,
Moscow. (FLAVONES) (TEA)

	BOKUCHAVA, M.A.; SKOBELEVA, N.	.1.	
	Paper chromatographic meter. Bickhimiia 26	study of carbohydrates by the use of a densito- no.2:361-365 Mr-Ap '61. (MIRA 14:5)	
	1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R.,		
	Moscow. (SUGARS)	(PAPER CHROMATOGRAPHY) (TEA)	
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BOKUCHAVA, M.A.; ULIYANOVA, M.S.

Flavonic substances in the individual organs of the tea plant.
Biokhimina 26 no.4:615-620 Jl-Ag '61. (MIRA 15:6)

1. Institute of Biochemistry, Academy of Sciences of the USSE,
Moscow. (TEA) (FLAVONE)



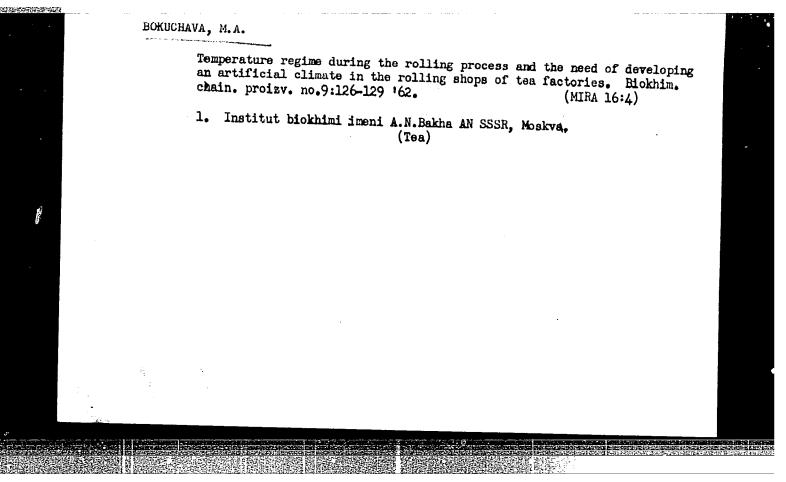
BOKUCHAVA, M.A. Theroy and practice of the new technology in the production of black tea. Biokhim, chain. proizv. no.9:81-87 *62. (MIRA 16:4) 1. Institut biokhimii imeni A.N.Bakha AN SSSR, Moskva. (Tea)

BOKUCHAVA, M.A.; GULUA, K.P.; MAKHMUDOV, K.I.; TEDESHVILI, N.D.

Duration of leaf rolling and fermentation using new and old technologies. Biokhim. chain; proizv. no.9:109-118 62. (MIRA 16:4)

1. Institut biokhimii imeni A.N.Bakha AN SSSR, Moskva i Nauchno-issledovatel skiy institut chaynoy promyshlennosti, Anasekli.

(Tea)



BORUGHAVA, M.A.; PRUIDZE, G.N.

Green quick-soluble dry tea concentrate from a raw material. Soob.
AN Gruz. SSR 37 no.3:587-594 Mr '55. (MIRA 18:5)

1. Vescoyuznyy nauchno-iseledovatal'skiy institut chaynoy promyshlennosti. 2. Chlen-korrespondent AN GruzSSR (for Bokuchava).

DESCRIPTION OF THE PARTY OF THE

KANAVETS, P.I.; GESS, B.A.; SPORIUS, A.E.; CHERNYSHEV, A.M.;

MELENT'YEV, P.N.; CHERNYKH, V.I.; KHROMYAK, R.P.;

KHAYLOV, B.S.; MCRISOV, Yu.I.; TSYLEV, L.M.; SOKOLOV, V.S.;

Prinimali uchastyre MARKIN, A.A.; GORLOV, M.Ya.;

VORONOV, Yu.G.; BULAKHOV, K.A.; KREMYANSKIY, V.L.; ARSHINOV,

G.P.; MAZUN, A.E.; PISARNITSKIY, I.M.; BOKUCHAVA, O.A.;

KIRILLOV, M.V.; TSELUYKO, P.I.; POLYAKOV, G.O.; REZKOV, A.S.;

ZHUCHKOV, M.I.; ROMASHKIN, A.S.; ZUEKOV, A.S.; KOZLOV, N.N.

Pilot plant for the nodulizing of finely ground charge mixtures by the method of chemical catalysis. Trudy IGI 22:

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•	PHASE I BOOK EXPLOITATION	80V/6246	<i>†</i>	
•	Soveshchaniye po tseolitam. 1st, Leningrad, 1961.			
	Sinteticheskiye tseclity; polucheniye, issledovaniye i p (Synthetic Zeolites: Production, Investigation, and t cow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: I Errata slip inserted. 2500 copies printed.			
•	Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khi nauk. Komisiya po tseolitam.	Lmicheskikh		
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Synthetic Zeolites: (Cont.)

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COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute inent Lensovet, and is purportedly the first monograph on this subject. The reports are stion on various types of zeolites and methods for their investigation, 2) the production of seolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

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BAGIROV, A.Yu.; BOKUCHAYEVA, M.A., doktor biol. nank, prof., red.

[Production of tea in the Azerbaijan S.S.R.] Preizvedstvo chaia v Azerbaidzhanskoi SSR. Baku, Azerneshr, 1964. 228 p. (MIRA 18:6)

BOKUN, JERZY

La mise au peint des dennees gravimetriques necessaires peur l'establissement en Pologne du reseau astronomo-geodesique et du nivellement de precision.

Varsevie, Peland. 1957. 7p.

Monthly List of Fast European Accessions Index (EFAI), LC. Vol. 8, No. 9, September 1959

BOKUN, J.

The Danzig-Kasprowy Wiech gravimetric base.

P. 119. (PRACE, PRODEEDINGS) (Warszawa, Poland) Vol. 5, no. 2, 1957

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

Warsaw. Instytut Geodezji i Kartografii. (PRACE. PROCEEDINGS. Warszawa, Poland Vol. 6, no. 1, 1958.

SOUTH TO SEE SEE SEE

Preparation of gravimetric materials for the Polish astrogeodetic net and the 1st class precise leveling net. p3.

Monthly List of East European Accessions Index (EEAI), LE, Vol. 8, No. 6, June 1959 Uncl.

BOKUN, J. CHOJNICKI, T.

Tables for computing in the system of normal heights a leveling correction on account of nonparallelism of equipotential surfaces. p_{\bullet} 136.

Warsaw. Instytut Geidezji i Kartografii. PRACE. PROCEEDINGS. Warszawa, Poland Vol. 6, no. 1, 1958.

Monthly List of East European Accessions Index (EEA), LC, Vol. 8, No. 6, June 1959 Uncl.

\$/035/62/000/004/047/056 A001/A101

AUTHOR:

Bokun, J.

TITLE:

On determining the geoid heights relative to Krasowski ellipsoid in Poland on the basis of available astronomical-geodetic and gravi-

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 4, 1962, 27 - 28, abstract 40171 ("Prace Inst. geod. i kartogr.", 1961, v. 8, no. 1, 113 - 140, Polish; Russian and English summaries)

The author analyzes accuracy of astronomical leveling in Poland TEXT: using over 100 astronomical-geodetic points. For the typical distance between astronomical stations being 70 km, the error in determining the average slope of the geoid turned out to be +1".5. Astronomical-geodetic deflections of the vertical were interpolated by means of gravimetric ones determined in intermediate points [The author did not employ in this case a more economical method, developed in the USSR, of direct calculation of height differences of the quasigeoid in astronomical stations with allowance for gravimetric measurements in

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On determining the...

S/035/62/000/004/047/056 A001/A101

the region embracing the astronomical stations in question (Reviewer)]. Gravimetric deflections of the vertical are determined with errors of ±0.5 - 0.7 at
points of the eight basic leveling traverses of about 210 x 210 km dimension
through each 15 km. The accuracy of transfer of the geoid height between the
neighboring astronomical stations with intermediate points through 7 - 15 km is
estimated to be 8 cm, which is 6 times better than in conventional leveling. The
results of preliminary accuracy determination agree with actually obtained misclosures of traverses (see Table)

Mean misclosures of traverses	Expected	Actual
At conventional astronomical leveling	± 149 cm	± 176 cm
With interpolation through gravimetric deflections of the vertical	<u>+</u> 23	± 28

The network of basic traverses ensured the accuracy of determining geoid heights relative to the initial point of Borov Gur amounting to ±30 cm within the limits of the whole country. Within the basic traverses were performed additional leveling traverses at an average distance between neighboring lines of 201 in

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On determining the...

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latitude and 30' in longitude. Geoid heights at the points of these lines were determined with errors of ±15 cm with respect to basic traverses. As a result of this work, the map of geoid over Krasowski ellipsoid was plotted with lines of equal heights through each 0.5 m.

L. Pellinen

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206110008-3

8/035/62/000/005/087/098 A055/A101

AUTHOR

Bokun, J., Chojnicki, T.

TITLE:

Calibration of the gravimetric network on the territory of Poland

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 36, abstract 50199 ("Prace Inst. geod. i kartogr.", 1961, 8, no. 2, 3 -27, Polish; Russian and English summaries)

TEXT: The now existing network of the main gravimetric points on the territory of Poland, based upon the reference point in Warsaw, was established according to the coordinated projects tending to create in Poland the first class gravimetric network and a pendulum network. In this article are described the results of measurements and the equalizing calculations for reducing both networks to the same scale and converting them into the CGS system. The pendulum network consists of 9 points; 16 connections between these points were achieved with the aid of a four-pendulum Askania instrument, in 1956 - 1958, by the Higher Geodesy department of the Warsaw polytechnic institute together with the Geodesy and Cartography institute (RZhAstr, 1958, no. 8, 5438; 1960, no. 12,

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Calibration of the ...

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12784; 1961, no. 4, G218). The network consists of eight triangles; the triangle side is, on the average, ~ 250 km. The majority of the sides have errors within ±0.18 mgal; a few of them have errors up to ±0.35 mgal. The network of the first class points was constructed by the geological institute in 1956 -1959. It contains 18 points, between which 37 connections were established by the Askania Gs-11 no. 95 gravimeter with utilization of air transport. The network consists of 20 triangles; the triangle side is, on the average, ~ 150 km. The misclosures in the triangles do not exceed 0.18 mgal. All the points of the pendulum net are connected, by the Gs-11 gravimeter (with an error of ±0.01 mgal), to the near-by points of the first class network. The adjustment calculations were effected in two variants; in both cases, the pendulum connections were also adjusted. In the first variant, the constant coefficients a and b of the Gs-11 no. 95 gravimeter were determined from 16 values of Δg , measured by pendulums (see abstract 5G198); the weights of the measured values of Δg were considered as being inversely proportional to the squares of their RMS errors. With the obtained values of the gravimeter constants was adjusted the first class network. In the second variant, the networks were first adjusted independently: the pendulum network (account taken of the weights) and the gravimetric network of the

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Calibration of the ...

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first class. The RMS error of the adjusted value of Δg of the side of the pendulum network proved to be ± 0.15 mgal. To reduce the preliminarily adjusted network of the first class to the system of the adjusted pendulum network, a system of 9 equations (according to the number of common points) was solved. For the reference point (Warsaw), a correction of $\pm 0.151 \pm 0.043$ mgal was obtained; the correction for the scale coefficient of the Gs-11 no. 95 gravimeter proved equal points (adjusted according to the one and the other variant) do not exceed 0.11 mgal; on the average, they amount to 0.04 mgal. The relative error in the scale coefficient of the gravimetric network of the first class of Poland (error of the "Polish milligal") is estimated approximately at 3 - (4.10-4). There are

P. Shokin

[Abstracter's note: Complete translation]

Card 3/3

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206110008-3

s/035/62/000/005/086/098 A055/A101

AUTHOR:

Bokun, Jerzy

TITLE:

The problem of the calibration of gravimeters in Poland

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 36, abstract 50198 ("Prace Inst. geod. i kartogr.", 1961, 8, no. 2,

28 - 49, Polish; Russian and English summaries)

In the recent years, gravimetric determinations have been usually effected, in Poland, with the aid of the Askania Gs-11 gravimeter. A method for calibrating gravimeters of this type was evolved in the Warsaw scientific research institute for geodesy and cartography. On the basis of the balance equation of the gravimeter resilient system, the following expression was obtained for the gravity difference between two points:

 $\Delta g = \Delta M(a+b \sum M)$,

where $\Delta M = M_2 - M_1$, $\Sigma M = M_1 + M_2$; M_1 and M_2 are the readings on the gravimeter scale at the observation points; a and b are constant coefficients, determined

Card 1/3

s/035/62/000/005/086/098 The problem of the calibration of gravimeters in Poland A055/A101

from observations in at least three points for which the gravity value is known. For studying the variability of the coefficients a and b with time, as well as their dependence on the temperature of the gravimeter thermostatic control, a gravimetric basis is used, that is located along the Cracow - Kuznica highway (\triangle g \sim 290 mgal, distance 108 km). The basis has 7 gravimetric points; in each point are laid concrete slabs. Descriptions and sketches of the points are reproduced, and Lg values are given. The values of the constants a and b of the gravimeter Gs-11 no. 112 were originally determined (in 1958) from threefold observations in the gravimetric points of Warsaw, Prague and Budapest, and at the three pendulum points of Poland: Cracow, Zakopane and Kuznica (RZhAstr, 1958, no. 8, 5438). With the new values of the constants a and b, were determined the values of Ag for all sections of the gravimetric basis; these values were expressed according to the scale of the "provisional Polish milligal". Control measurements at points of foreign gravimetric bases, in the German Democratic Republic ($\Delta g \sim 166$ mgal) and in Czechoslovakia ($\Delta g \sim 93$ mgal), revealed an agreement between the scales within 4.10-4. A satisfactory time-constancy of the coefficients a and b, and a considerable variation of the coefficient a with temperature were ascertained by repeated observations (1958 - 1960) in the Polish

Card 2/3

CIA-RDP86-00513R000206110008-3"

APPROVED FOR RELEASE: 06/09/2000

The problem of the calibration of gravimeters in Poland S/035/62/000/005/086/098 A055/A101

gravimetric basis. The relative error in the determination of the constant a is estimated by the value $m_a/a = +3 \cdot 10^{-4}$; the relative variation of the coefficient a with temperature is $\Delta a/\text{degree}/a = +(4.8\pm1.1)\cdot 10^{-5}/\text{degree}$; the relative error in the determination of the coefficient b is $\pm 14\%$. The discrepancy between the coefficient a at 40°C and its value as specified by the firm Askania attains 1%. The necessity is stressed to undertake systematic investigations with a view to enhancing the precision of the gravimetric basis, to improving the calculation method and to determining the dependence of the gravimeter constants on time and on local influences. There are 12 references.

P. Shokin

[Abstracter's note: Complete translation]

Card 3/3

ACCESSION NR: AT4040346

P/2505/63/010/002/0076/0039

AUTHOR: Bokun, Jerzy (Bokun, Yezhi)

TITIE: Remarks concerning the computation of geopotential numbers

SOURCE: Warsaw. Instytut Geodezji i Kartografii. Prace, v. 10, no. 2(22), 1963,

TOPIC TAGS: geopotential number, gravimetric map, mareograph

ABSTRACT: The use of geopotential numbers in problems concerning systems of heights and the definition of these numbers was accepted by the International Association of Geodesy (Bull. geodesique, nr. 45, 1957; nr. 47, 1958). For computation of the differences of geopotential numbers according to the empiric $Ac_{A-B} = \sum (g_{i,i+1} \triangle h_{i,i+1})^{n}$

there must be known for the elementary sections i, i + 1 the result of levelling Ahi, itl and the mean value of the acceleration of gravity Si, itl for this section on the physical surface of the earth. In plain and hilly regions the section between the neighboring height marks of the levelling line can be adopted as

Card 1/3

ACCESSION NR: AT4040346

the elementary section 1, i+1; in a mountainous region, however, it may be necessary to divide the section of levelling into two or more elementary sections. For the whole line of levelling between the points 1 and N it is proposed to determine Acl-N according to the formula

 $\Delta c_{1-N} = g_0 \cdot \sum_{i=1}^{N} \Delta h_{i,i+1} + \sum_{i=1}^{N} (\delta g_{i,i+1} \cdot \Delta h_{i,i+1}).$

The value of g_i , i+1 may be determined as follows: a) from the values of the acceleration of gravity, measured directly on the levelling points i and i+1 and computing g_i , i+1=1/2 (g_i+g_{i+1}), or b) from the anomalies on points i and i+1, determined from the gravimetric map, further computing g_i and g_{i+1} according to a given formula. A formula is also deduced for the expected mean square error of determination of Δc_i ; and the computation scheme is given in a table. The author concludes that the geopotential numbers may be of practical use in Polad in levelling of the connections between null-points of the water-level rods of the mareographs. In this case the use of the map of gravimetric anomalies for the determination of g_i , g_i ,

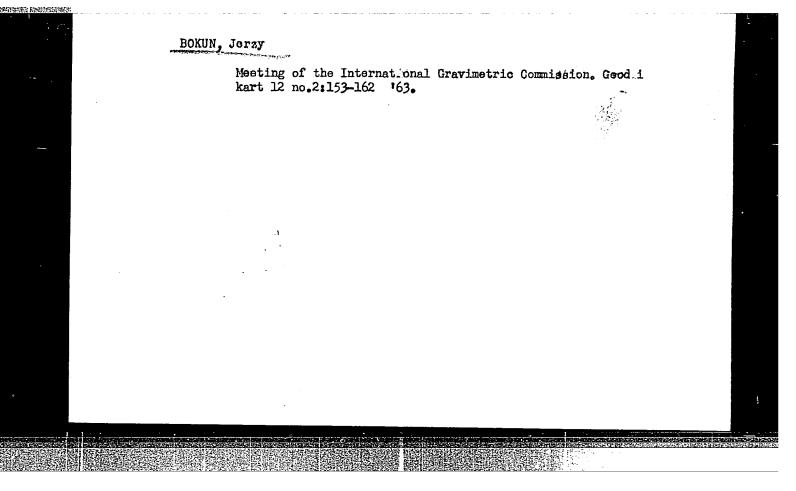
Card 2/3

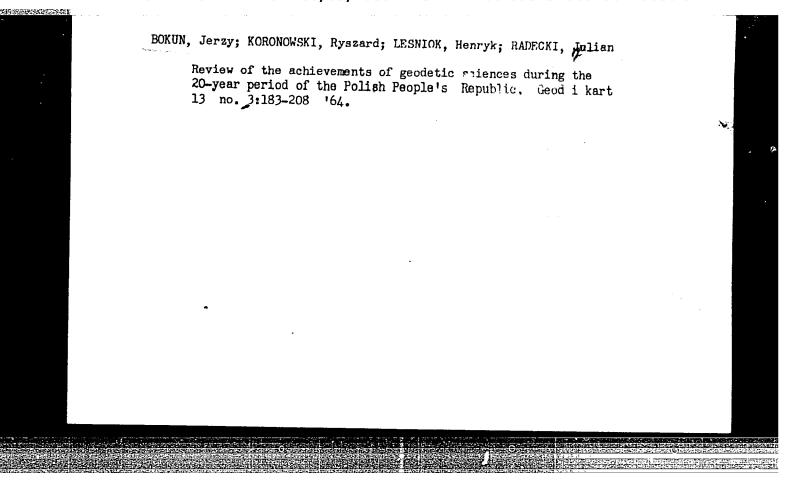
ACCESSION NR: AT4040346

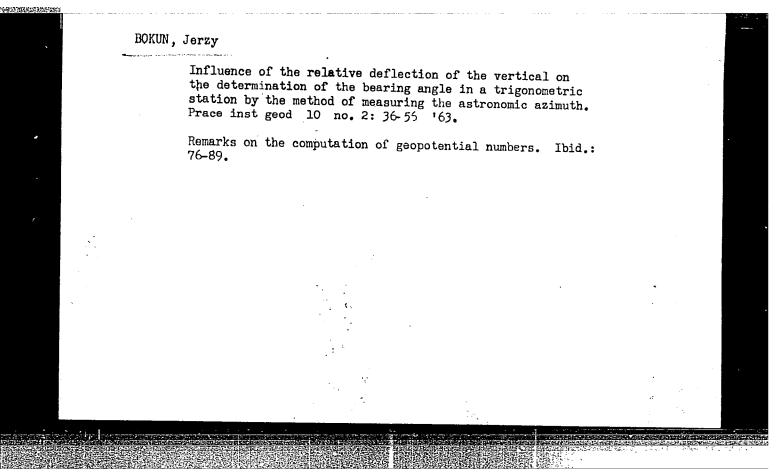
ASSOCIATION: none
SUBMITTED: COMAr65

NO REF SOV: OO2

Card 3/3







BOKUN, K.; SIKORSKI, J.

The role of flight-medical crew members in preventing disasters in aeronautic schools. p. 29.

WOJSKOWY PRZEGLAD LOTNICZY. (Dowodztwo Wojsk Lotnicznych) Warszawa, Poland, Vol. 12, no. 5, May 1959

Monthly List of East European Accessions (EEAI) LC Vol. 8, no.8, August, 1959

Uncl.

BOKUN, N.; MOSTSITSKIY, V. Output of semiprocessed food will double. Obshchestv. pit. no. 3:25-26 Mr '61.

1. Sekretar¹ kulinarnogo soveta dorursa L¹vovskoy zheleznoy dorogi (for Bokun). 2. Predsedatel kulinarnogo soveta dorursa L'vovskoy zheleznoy dorogi (for Mostsitskiy).

(Lvov-Restaurants, lunchrooms, etc.-Equipment and supplies)

(MIRA 14:4)

MALOVITSKIY, Fa.P., EOKUN, R.A., MARTYNOVA, G.P.

New data on the geology of the marine extension of the northwestern Caucasus. Noftegaz. geol. i geofiz. no.7:
38-41 '63. (MRA 17:10)

1. Nauchno-isaledovatel'skaya morskaya geofizicheskaya ekspeditsiya Vesegyuznogo nauchno-isaledovatel'skogo instituta geofizicheskikh metodov razvedki.

NEPROCHNOV, Yu.P.; NEPROCHNOVA, A.F.; ZVEREV, S.M.; MIRONOVA, V.I.; BOKUN, R.A.; CHEKUNOV, A.V.

Recent data on the crustal structure of the Black Sea trough, south of the Crimea. Dokl. AN SSSR 156 no. 3:561-564 '64. (MIRA 17:5)

1. Predstavleno akademikom D.I.Shcherbakovym.

ACC NR: AT6034365 SOURCE CODE: UR/0000/66/000/000/0040/0048

AUTHOR: Bokun, V. V.; Bokun, R. A.; Golovinskiy, V. I.; Gol'mshtok, A. Ya.

ORG: none

TITLE: Geological structure of the Mesozoic-Cenozoic sedimentary cover in the northwestern part of the Black Sea

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Stroyeniye Chernomorskoy vpadiny (Structure of the Black Sea depression); sbornik statey. Moscow, Izd-vo Nauka, 1966, 40-48

TOPIC TAGS: seismic wave propagation, earth crust, elastic wave propagation, gravity measurement, geoelectric boundary tectoric, stratigraphy

ABSTRACT: On the basis of geophysical data, two conjugate tectonic units (a basin and an arch-like uplift) are identified in the Black Sea depression. The axis of the basin runs in a southwest direction from the area of the northern Azov depression through the eastern part of the northern Sivashi to the Bakal spit on the northern coast of the Tarkhan-kutskiy Peninsula. The conjugate zone of the depression and the uplift is accompanied by a series of sublatitudinal disturbances which are marked by a clear gravity gradient. The Karkinitskiy gravity minimum is

Card 1/2

ACC NR:AT6034365

entire transfer to the

explained by the structure of the deep-seated layers of the crust. Elastic-wave propagation velocities and geoelectric properties determined from deep exploratory wells in the Tarkhankutskiy area indicate the existence of two major layers, the upper consisting of terrigenous Tertiary formations characterized by unstable velocity characteristics. The coincidence of a velocity jump and the occurence of the geoelectric boundary indicated that the refracting boundary and the horizon of infinitely high resistance belong to the upper part of the carbonate layers of the Upper Cretaceous. Article contains charts showing seismic profiles, refracting horizons, the geoelectric horizon, and velocities. Orig. art. has: 4 figures.

SUB CODE: 08/ SUBM DATE: 04May66/ ORIG REF: 008

Card 2/2

ACC NR. AT 6034365

SOURCE CODE: UR/0000/66/000/000/0040/0048

AUTHOR: Bokun, V. V.; Bokun, R. A.; Golovinskiy, V. I.; Gol'mshtok, A. Ya.

ORG: none

TITLE: Geological structure of the Mesozoic-Cenozoic sedimentary cover in the northwestern part of the Black Sea

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Stroyeniye Chernomorskoy vpadiny (Structure of the Black Sea depression); sbornik statey. Moscow, Izd-vo Nauka, 1966, 40-48

TOPIC TAGS: seismic wave propagation, earth crust, elastic wave propagation, gravity measurement, geoelectric boundary, tectoric, stratigraphy

ABSTRACT: On the basis of geophysical data, two conjugate tectonic units (a basin and an arch-like uplift) are identified in the Black Sea depression. The axis of the basin runs in a southwest direction from the area of the northern Azov depression through the eastern part of the northern Sivashi to the Bakal spit on the northern coast of the Tarkhan-kutskiy Peninsula. The conjugate zone of the depression and the uplift is accompanied by a series of sublatitudinal disturbances which are marked by a clear gravity gradient. The Karkinitskiy gravity minimum is

Card 1/2

explained by the structure of the deep-seated layers of the crust. Elastic-wave propagation velocities and geoelectric properties determined from deep exploratory wells in the Tarkhankutskiy area indicate the existence of two major layers, the upper consisting of terrigenous Tertiary formations characterized by unstable velocity characteristics. The coincidence of a velocity jump and the occurence of the geoelectric boundary indicated that the refracting boundary and the horizon of infinitely high resistance belong to the upper part of the carbonate layers of the Upper Cretaceous. Article contains charts showing seismic

profiles, refracting horizons, the geoelectric horizon, and velocities.

SUB CODE: 08/ SUBM DATE: 04May66/ ORIG REF: 008

ACC NR: AT 6034365

Orig. art. has: 4 figures.

L 6512-66

ACC NR: AP5025648

SOURCE CODE: UR/0106/65/000/010/0064/0070

AUTHOR: Kitayev, V. Ye.; Bokunyayev, A. A.

ORG: none

TITLE: On-off d-c voltage stabilizer with a parallel-connected regulating transistor

SOURCE: Elektrosvyaz', no. 10, 1965, 64-70

TOPIC TAGS: voltage stabilizer, transistor voltage stabilizer

ABSTRACT: A transistorized d-c voltage stabilizer operating under sustained oscillation conditions is considered. Essentially, a regulating transistor (P-4, P-209, or P210), an emitter-coupled trigger, and a comparison circuit (total of 6 transistors) constitute the stabilizer which can handle a relatively heavy load current with a voltage ripple of about 1%. Formulas for the principal parameters of the stabilizer are developed. An experimental verification on a laboratory hookup developing 5 amp at 15 v (50% load drop, ± 5% supply-voltage variation) is reported. Orig. art. has: 4 figures, 34 formulas and 1 table.

SUB CODE: EC/ SUBM DATE: OBFeb65/ ORIG REF: 003/ OTH REF: 001

nw

Card 1/1

UDC: 521.3.072.2

BOKUNYAYEV, A.I., inzh., red.; SOKOLOV, N.M., kand. tekhn. nauk, red.; RZHANITSYN, B.A., red.; KLIMOVA, G.D., red.izd-va; MOCHALINA, Z.S., tekhn. red.

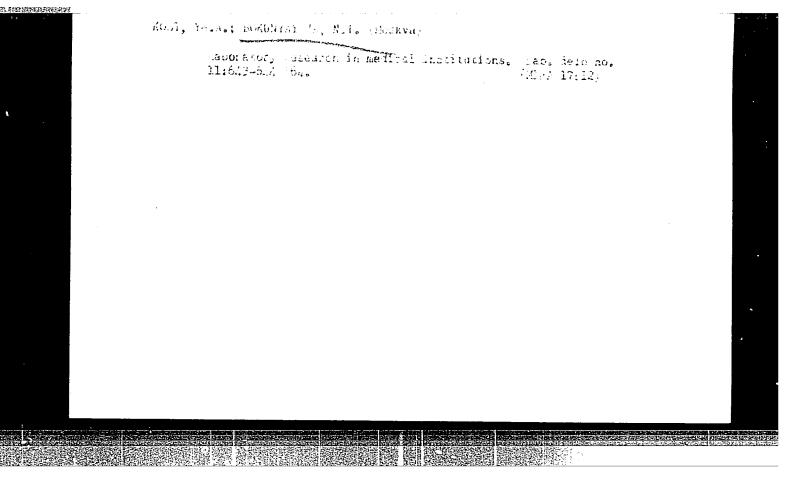
[Construction specifications and regulations] Stroitel'nye normy i pravila. Moskva, Gosstroiizdat. Pt.3. Sec.B. ch.5. [Stabilization and artificial firming of soils; regulations for the organization, performance, and acceptance of work] Stabilizatsiia i iskusstvennoe zakreplenie gruntov; pravila organizatsii, proizvodstva i priemki rabot (SNiP III-B. 5-62). 1963. 23 p. (MIRA 16:9)

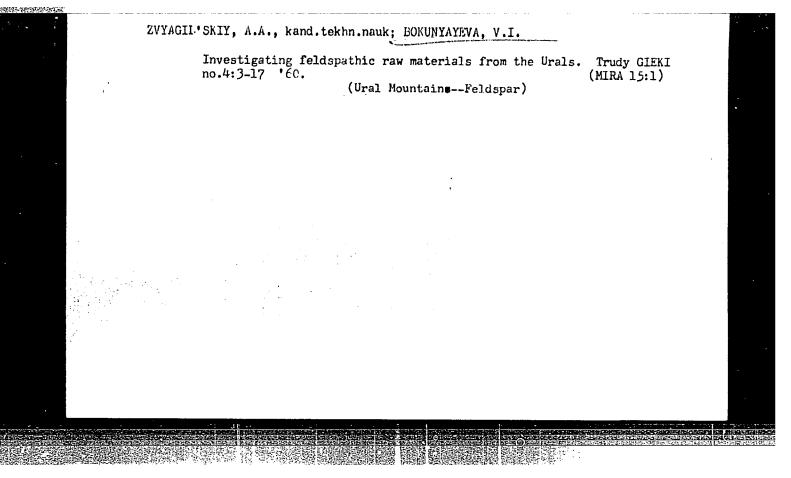
1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Nauchno-issledovatel'skiy institut osnovaniy i podzemnykh sooruzheniy Akademii stroitel'stva i arkhitektury SSSR (for Rzhanitsyn).

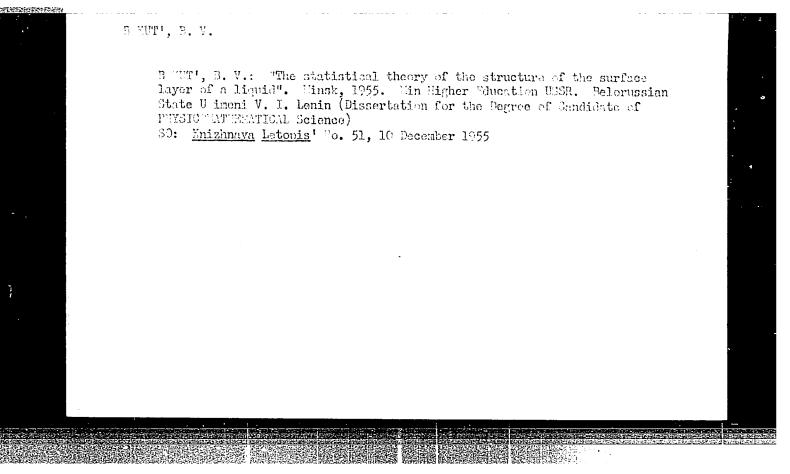
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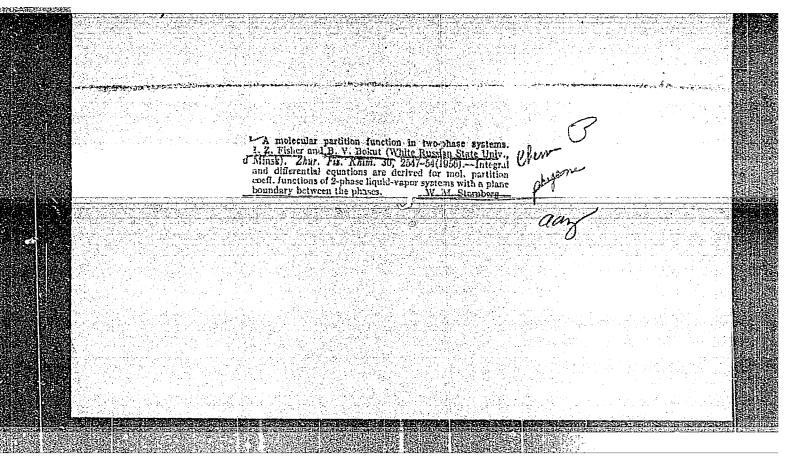
EXCERPTA MEDICA Sec. 12 ol.11/11 Ophthalmology Nov57. 1858. BOKUNYAEVA A., LAIKHTER B. and NEIMAN V. *The aged and generation in the macular region VESTN.OFTAL. 1957, 2 (36-39) Illus. 1 (Russian text) and de-The authors examined 62 patients, aged from 50 to 70 and over, in whom macular degeneration was diagnosed. The vague initial symptoms, the ophthalmoscopic picture, the course of the disease, is described in detail. In 16 patients the vision was impaired in both eyes, in 28 in one eye; in 12 there was no impairment of vision. Most of the patients suffered from atherosclerosis, cardiac and hypertensive diseases. The classical senile degeneration was found in 46 patients. In some the diagnosis was missed as they had glaucoma and the pupils could not be dilated. Disciform degeneration was observed in 2, colloidal in 4 and retinitis circinata in 3 patients. The disciform degeneration is the most severe as it is the result of a haemorrhage; changes are localized between the lamina vitrea and the neuro-epithelium. At first a transudate peneirates the pigment epithelium and spreads to the neuro-epithelium; later on connective tissue forms with subsequent degeneration of the remaining layers of the retina. The initial changes in the macula are best seen with red free light examination. Amsler's chart was also used for diagnosis. The authors stress the point of diagnosing early the condition as active oxygen therapy (the details are not given: abstractor) acts favourably on the course of the disease (usually the sclerosis of the vessels indicate oxygen deficiency). Vasodilators, tissue therapy and iodides also were used with good re-Sitchevska - New York, N.Y. sults in some patients. a SSSR diaznoye otdeleniye TSentral'noy polikliniki Ministerstva zdravookhrane

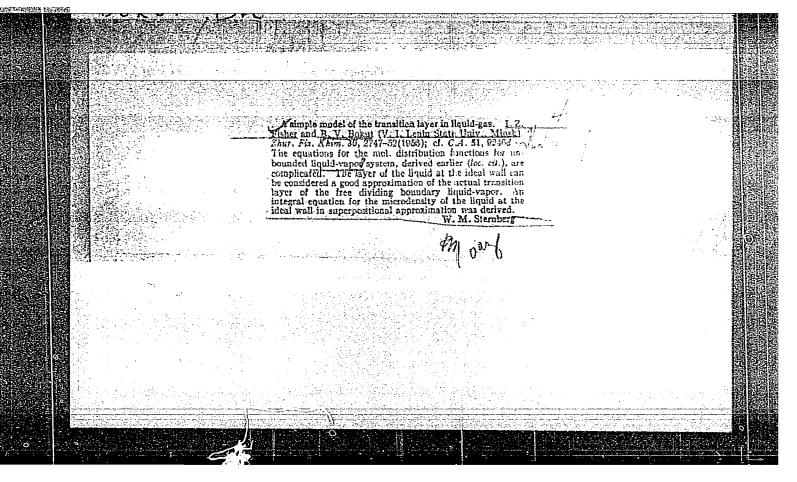
	KOST, Ye.A.; BOKUNYAYEVA, N.I.; IZRAIL'SKAYA, N.M.			
	"Handbook on laboratory methods of investigation" by G.N.Udintsev, V.B.Blank, I.S.Timeskov. Reviewed by E.A.Kost, N.I.Bokuniaeva, N.M.Izrail'skaia. Lab. delo 7 no.3:62-63 Mr '61. (MIRA 14:3) (MEDICAL LABORATORIES—HANDBOOKS, MANUALS, ETC.)			
-	(UDINTSEV, G.N.) (BLANK, V.B.) (TIMESKOV, I.S.)			
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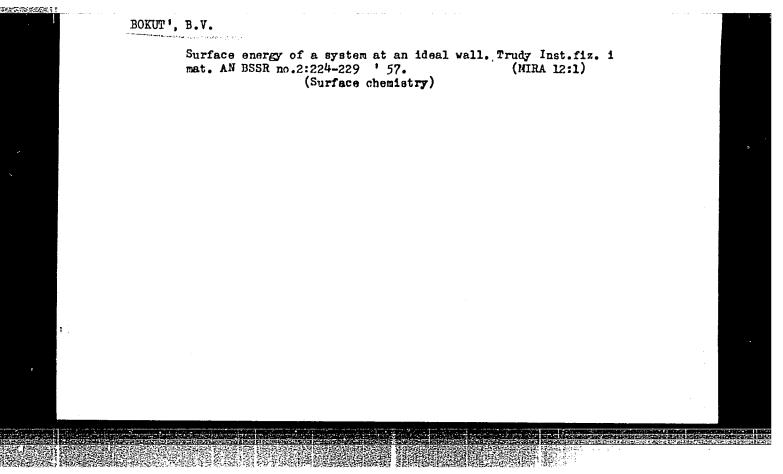






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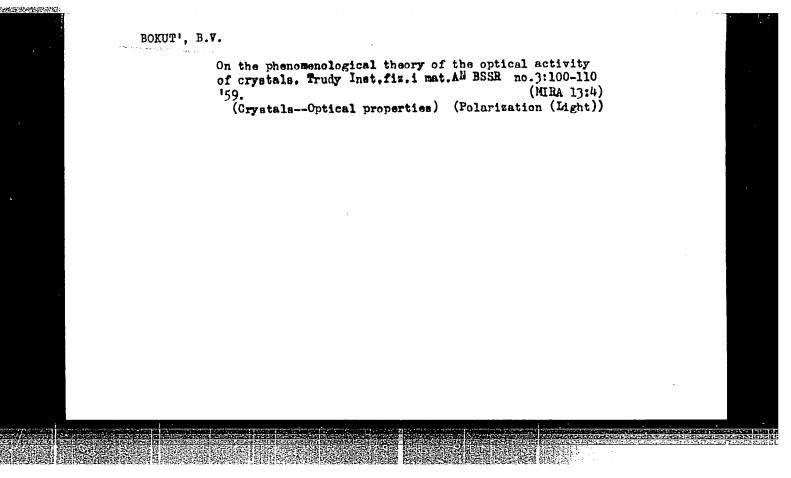


FISHER, I.Z.; BOKUT', B.V.

The surface layer of a one-dimensional liquid. Zhur.fiz.khim,
31 no.1:200-204 Ja '57. (MIRA 10:5)

1.Belorusskiy gosudarstvennyy universitet im, V.I. Lenina, Minsk.

(Liquids, Einetic theory of)



24(4), 24(2)

SOV/51-6-4-21/29

AUTHORS:

Bokut', B.V. and Fedorov, F.1.

TITLE:

On the Theory of the Optical Activity of Crystals. (K teorii onticheskoy aktivnosti kristallov). III. The General Equation of Normals (III. Obshcheye uravneniye normaley)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 4, pp 537-541 (USSR)

ABS TRACT:

In the earlier parts of this work (Refs 1, 2) the author developed an invariant phenomenological theory on the optical activity of crystals of all types of symmetry. The present paper deals with the general equation of normals for the optically active crystals when magnetic effects are allowed for. The theory shows that three types of waves are possible in the optically active crystals, and the phase velocity of the third wave should be very small compared with the velocity of light. The paper is entirely theoretical. There are 6 references, 5 of which are Soviet and 1 translation from German into Russian.

SUBMITTED:

March 15, 1958

Card 1/1

SOV/51-7-4-20/32

AUTHORS:

Bokut', B.V. and Fedorov, F.I.

TITLE:

Propagation of Light in Absorbing Magnetic Active Isotropic Media and

Cubic Crystals

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 4, pp 558-561 (USSR)

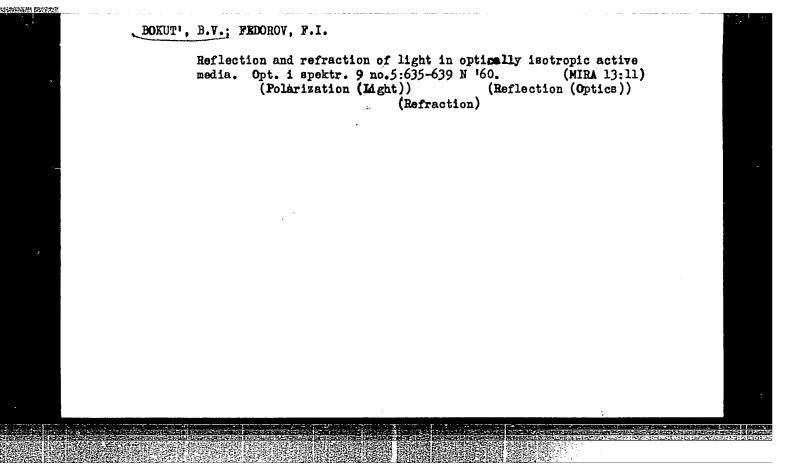
ABSTRACT:

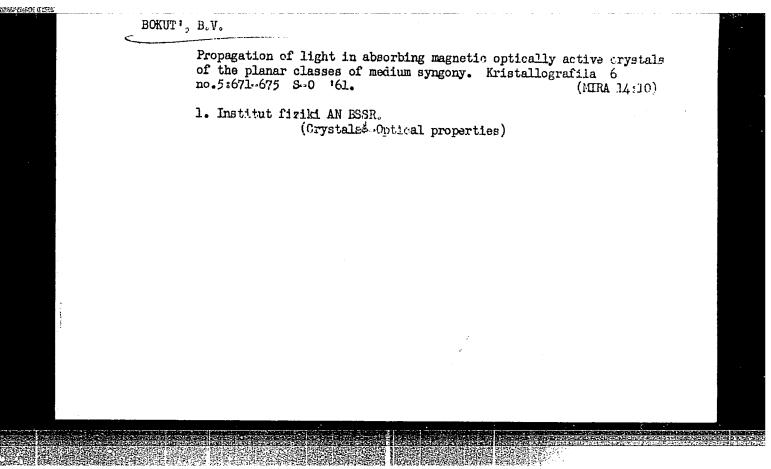
The authors discuss propagation of plane electromagnetic waves in an optically isotropic medium, possessing optical absorption, optical activity and magnetic properties. It is shown that when the magnetic terms of the optical activity are taken into account, circular dichroism should occur. The paper is entirely theoretical. There

are 8 references, 6 of which are Soviet and 2 translations.

SUBMITTED: March 23, 1959

Card 1/1





\$/070/62/007/006/011/020 E132/E435

AUTHORS: Fedorov, F.I., Bokut', B.V., Konstantinova, A.F.

TITLE: The optical activity of crystals of the classes of intermediate symmetry having planes of symmetry

PERIODICAL: Kristallografiya, v.7, no.6, 1962, 910-915

The classes in question L^66P , L^44P and L^33P (6 mm, 4 mm, TEXT: 3 mm) having a plane of symmetry parallel to their axes of highest order have hitherto been thought to be optically inactive. There are few crystals representative of these classes but tourmaline is one. Rotation of the plane of polarization cannot occur for any direction of propagation but optical activity can manifest itself by other phenomena, as in optically active crystals of other classes, for propagation along directions other than the optic axis. It is shown that the phenomenon of the elliptic polarization of the reflected wave is a unique symptom of optical activity. It is, however, normally extremely small - of the order of 10-5 in quartz. An experimental arrangement for making observations under the best conditions is suggested. The surface of the crystal is immersed in a liquid of carefully Card 1/2

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APPROVED FOR RELEASE: 06/09/2000

The optical activity ...

s/070/62/007/006/011/020 E132/E435

chosen refractive index. The refractive index can be changed slightly, by altering its temperature, thus changing the sign of the effect. In addition to detecting the presence of optical activity, it should be possible to determine its sign. In principle too, optical activity can be detected in absorbing There is 1 figure.

ASSOCIATIONS: Institut fiziki AN BSSR (Institute of Physics

Institut kristallografii AN SSSR

(Institute of Crystallography AS USSR)

SUBMITTED: March 21, 1962

Card 2/2

15079

24 3200

S/051/63/014/001/019/031 E032/E514

AUTHORS:

Bokut', B.V. and Sotskiy, B.A.

TITLE:

Transmission of light through an optically active

absorbing plate

PERIODICAL: Optika i spektroskopiya, v.14, no.1, 1963, 117-120

TEXT: The radiation is assumed to be at normal incidence on a plane-parallel optically-isotropic active absorbing plate of thickness d placed in an isotropic medium with a refractive index n. The reflections from both surfaces are taken into account. It is shown that the reflected and transmitted fields are in general elliptically polarized. If the incident wave is circularly polarized, then double refraction will be absent and all the waves will have the same polarization as the incident wave. If the incident wave is plane polarized, then the transmitted wave will also be linearly polarized but its plane of polarization will be rotated through an angle $\chi = 1/2$ k²da, where k is the wave number in vacuum and d is the optical activity coefficient details. The reflected wave will be elliptically polarized with the ratio of the semi-axes given by Card 1/2

Transmission of light through ... \$/051/63/014/001/019/031 E032/E514

$$\frac{b}{a} = \frac{np \left(\frac{1}{n}, \frac{1}{0} - n^2 - \kappa^2 \right)}{\left(\frac{n^2}{0} - n^2 \right)^2}$$

where n' and x are the refractive index and absorption coefficient of the plate, respectively, and p = ka. These results are obtained by solving Maxwell's equations subject to the appropriate boundary conditions. The paper concludes with a molecular interpretation of these results in terms of the C. W. Oseen theorem (Ann. Phys., 48, 7, 1915). The molecular treatment yields the same results as the "macroscopic solution" of the Maxwell equations.

SUBMITTED: November 30, 1961

Card 2/2

ACCESSION NR AP4009464

8/0051/63/015/006/0797/0802

AUTHOR: Bokut', B.V.; Fedorov, F.I.

TITLE: Reflection and refraction of light by optically active crystals

SOURCE: Optika i spektroskopiya, v.15, no.6, 1963, 797-802

TOPIC TAGS: reflection, refraction, polarization, Maxwell equation, optically active crystal, tetragonal crystal, nonmagnetic crystal

ABSTRACT: To date the properties of optically active crystals have not been adequately investigated. Accordingly, in the present paper there is solved in general form the problem of reflection and refraction of plane electromagnetic waves at the surface of an arbitrarily oriented, transparent, isotropic medium with a given index of refraction, the magnetic properties of which are neglected. In view of the cumbersome character of the calculations in the ordinary coordinate representation, some simplifying assumptions are made and the results are obtained in covariant form. The analysis is started with the Maxwell equations for plane waves in an optically active medium, written taking into account the dielectric constant, the electric optical activity tensor, the refraction vector, the wavenumber, the

 $Card^{1/2}$

ACC. NR: AP4009464

index of refraction, and the wave normal. The results of the rather lengthy and involved calculations are applied to crystals of the inversion-planar class of tetragonal symmetry. It is concluded that when the wave normals of the refracted waves coincide in direction with the optical c axis, the ellipticity will be nil; that is, in this case the inversion-planar crystal will not differ as regards its optical properties from an inactive uniaxial crystal. Orig.art.has: 81 formulas.

ASSOCIATION: none

SUBMITTED: 24Mar63

DATE ACQ: 03Jan64

ENCL: 00

SUB CODE: PH

NR REF SOV: 004

OTHER: 003

Card 2/2

AUTHOR: Bokut', B. V.; Khatkevich, A. G.

554

TITLE: Theory of light wave frequency conversion by crystal

SOURCE: AN BSSR. Doklady, v. 8, no. 11, 1964, 713-716

TOPIC TAGS: light frequency conversion, laser, nonlinear conversion, laser frequency conversion

ABSTRACT: The authors refer to the phenomenon of nonlinear frequency conversion of light achieved by lasers as observed by Franken et al (Phys. Rev. Lett. 7, 1961, 118) and later investigated by a number of other Western researchers. This paper is concerned specifically with the polarization waves forming in crystal irradiated by two light waves of differing frequencies. Two waves will propagate from each incident wave within a nonlinear crystal due to double refraction. Nonlinear polarization of the crystal ensues. The equation given for the general complex tensor of the nonlinear polarization

Cord 1/2

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ACCESSION NR: AP5002540

indicates that up to fourteen various polarization waves are formed in the crystal, four with frequencies $\omega_1 \perp \omega_2$ and three with frequencies $2\omega_1$ and $2\omega_2$ (ω_1 and ω_2 being the frequencies of the incident waves). In addition, the crystal itself, which is assumed to be nonabsorptive, optically inactive, and nonmagnetic, displays a complex polarization with a spatially variable component. The polarization waves in such a crystal excite electromagnetic radiation which can be described by the nonhomogeneous wave equation derived from Armstrong et al (Phys. Rev. 127, 1962, 1761), the solution of which is the sum of the general solution of the homogeneous and the partial solution of the nonhomogeneous equation. A simplified version of the solution is derived which indicates that, generally, two nonhomogeneous polarization waves are excited, the character and relationship of which in various cases are discussed. Orig. art has: 12 formulas.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR)

SUBMITTED: 30Apr64

ENGL: 00

SUB CODE: EC, OP

NO REF SOV: 001

OTHER: 004

ATD PRESS: 3167

Card 2/2

L 12910-65 EWT(1)/T/EEC(b)-2 IJP(c)/AS(mp)-2/BSD/ASD(a)-5/ESD(ge)/ESD(t)

ACCESSION NR: AP4047181 S/0051/64/017/004/0607/0611

AUTHORS: Bokut', B. V.; Fedorov, F. I.

TITLE: Reflection and refraction of light by optically active inversion-planar crystals η

SOURCE: Optika i spektroskopiya, v. 17, no. 4, 1964, 607-611

TOPIC TAGS: crystal lattice symmetry, crystal syngony, light reflection, light refraction, optical activity

ABSTRACT: The results of an earlier investigation by the authors (Opt. i spektr. v. 15, 798, 1964) to determine the amplitudes of the waves reflected and refracted by an optically active crystal of inversion-planar class of tetragonal syngony for various combinations of the following orientations of the binormal and of the plane of incidence: binormal parallel perpendicular, or inclined to the interface, and plane of incidence parallel or perpendicular to the bi-

Cord 1/2

L 12910-65 ACCESSION NR: AP4047181

normal, passing through a two-fold crystal axis, and coinciding with one of the symmetry planes of the crystal. The possibility of experimentally determining and measuring the parameter of optical activity of such crystals is discussed. It is shown that the vanishing of the scalar gyration parameter still does not indicate that there is no optical activity in the crystals. Orig. art. has: 1 figure and 13 formulas.

ASSOCIATION: None

SUBMITTED: 07May63

ENCL: 00

SUB CODE: OP, SS

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BOKUT', B.V.; KHATKEVICH, A.G.

Theory of the transformation of the frequency of light waves by a crystal. Dokl. AN FISR 8 no.11:713-716 N '64.

(MIRA 18:3)

1. Institut fiziki AN BSSR.

EWA(k)/FBD/EWT(1)/EPF(c)/EEC(k)-2/T/EWP(k)/EWA(m)-2/EWA(h)L 3931-66 wg/ww/gg UR/0250/65/009/006/0357/0359 ACCESSION NR: AP5017692 Khatkevich, A. G.; AUTHORS: TITLE: On the condition for phase matching in light-wave frequency conversion AN BSSR. Doklady, v. 9, no. 6, 1965, 357-359 SOURCE: الماركين ruby laser, refractive index, unlaxial TOPIC TAGS: laser optics. crystal, frequency conversion ABSTRACT: This is a continuation of an earlier paper (DAN BSSR v. 8, no. 11, 713, 1964), in which a general solution was given for the problem of light-wave frequency conversion by crystals and it was shown that in general, 14 polarization waves are produced when two waves are incident on a nonlinear crystal. The present paper considers the possibility of phase matching of all these waves, wherein the vector of the polarization-wave refraction coincides with the vector of the generated-wave refraction. The necessary condition for the phase matching is derived and is shown to be related with the ratio 1/2

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of the birefringence and the dispersion. The analysis shows that phase matching is possible for nine different polarization waves, and the wave with the higher frequency (polarization or pumping waves) should have a lower refractive index. The possibility of phase matching in a uniaxial crystal is further considered, and it is shown that in the case when the ordinary beam from a ruby laser operating at	
6934 A is mixed with the extraordinary beam from a CaWO4: Nd3+ laser	
 (10582 Å) in a KDP crystal, phase matching takes place at an angle of 54.6°, whereas in the case when only the ordinary beams of these lasers are mixed the matching takes place at 42.6°. The authors thank B. A. Sotskiy and A. M. Goncharenko for a discussion of the results. This report was presented by B. I. Stepanov. Orig. art. has: 9 formulas.	
ASSOCIATION: Institut fiziki AN BSSR (Physics Institute AN BSSR) 4,55	
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SOURCE CODE: UR/0368/66/004/005/0455/0458

AUTHOR: Bokut', B. V.; Khatkevich, A. G.

ORG: none

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TITLE: Mixing of electromagnetic waves by a nonlinear crystal

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 5, 1966, 455-458

TOPIC TAGS: nonlinear effect, electromagnetic wave interference, light interference, light transmission, frequency conversion

ABSTRACT: The authors calculate the coefficients of conversion of radiation in different cases of mixing of light waves in KDP and ADP single crystals. The light waves have different frequencies, and are normally incident. Expressions are given for the conversion coefficient, for the transmission coefficients of the ordinary and extraordinary components of the incident waves, and for the dependence of a function proportional to the conversion coefficient on the divergence of the beam and on the thickness of the crystal. A table of the results shows that the transformation coefficient for the emission at the difference frequency is smaller than for the emission at the sum frequency. The main reason is that the intensity of the transformed radiation is proportional to the square of the frequency. Orig. art. has: 1 figure, 14 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 06Jul65/ ORIG REF: 004/ OTH REF: 004

Card 1/1 80

UDC: 535.44

ACC NR: AP7003280

SOURCE CODE: UR/0250/66/010/012/0933/0935

AUTHOR: Savkin, A. Ye.; Lugina, A. S.; Bokut', B. V.

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TITLE: Observation of generation at the sum frequency of the emissions from a ruby and a neodymium laser in a KDP crystal

SOURCE: AN BSSR. Doklady, v. 10, no. 12, 1966, 933-935

TOPIC TAGS: ruby laser, neodymium laser, laser emission, frequency mixing, frequency converter

ABSTRACT: The authors were able to mix in a KDP crystal the ordinary wave of a ruby laser ($\lambda_R = 6943$ Å) and the extraordinary wave of a neodymium laser ($\lambda_{Nd} = 10600$ Å) and produce emission at the sum frequency in the phase-matching direction. Both lasers were fed from a single capacitor bank and the two were pumped individually by a single IFP-2000 lamp. The ruby and neodymium lasers generated 3.8 J and 2.65 J at a pump voltage of 2800 v, corresponding to 1760 J energy for each pump lamp. The method of obtaining both temporal and spatial coincidence of the generated radiations and parallelism of their beams is described. Generation from the KDP crystal at the sum frequency was observed throughout the duration of the ruby laser emission. This report was presented by Academician AN BSSR B. I. Stepanov. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 07Jul66/ ORIG REF: 003/ OTH REF: 001

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